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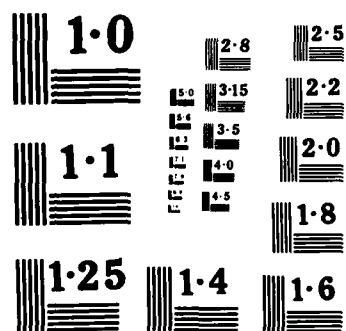
19320A MLRS MISSILE NUMBER V6165 V6131 V6132 V6133
ROUND NUMBER V593/AT2- (U) ARMY ELECTRONICS RESEARCH
AND DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER
JUN 84 ERADCOM/ASL/DR-1345 F/G 4/2

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DR 1345

Jun 84

AD

AD-A144 836

METEOROLOGICAL DATA REPORT

Missile Number V6165, V6131, V6132, V6133
Round Number V593/AT2-55, V594/AT2-56, V595/AT2-57, VV596/AT2-58
12 June 1984

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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INTRODUCTION

19320A MLRS, Missile Numbers V6165, V6131, V6132, and V6133, Round Numbers V593/AT2-55 Thru V594/AT2-58, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico at 1000:48, 1010:31, 1010:35 and 1010:40 MDT, 12 Jun 84. The scheduled launch times were 0956 MDT, 1006:00, 1006:4.5 and 1006:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

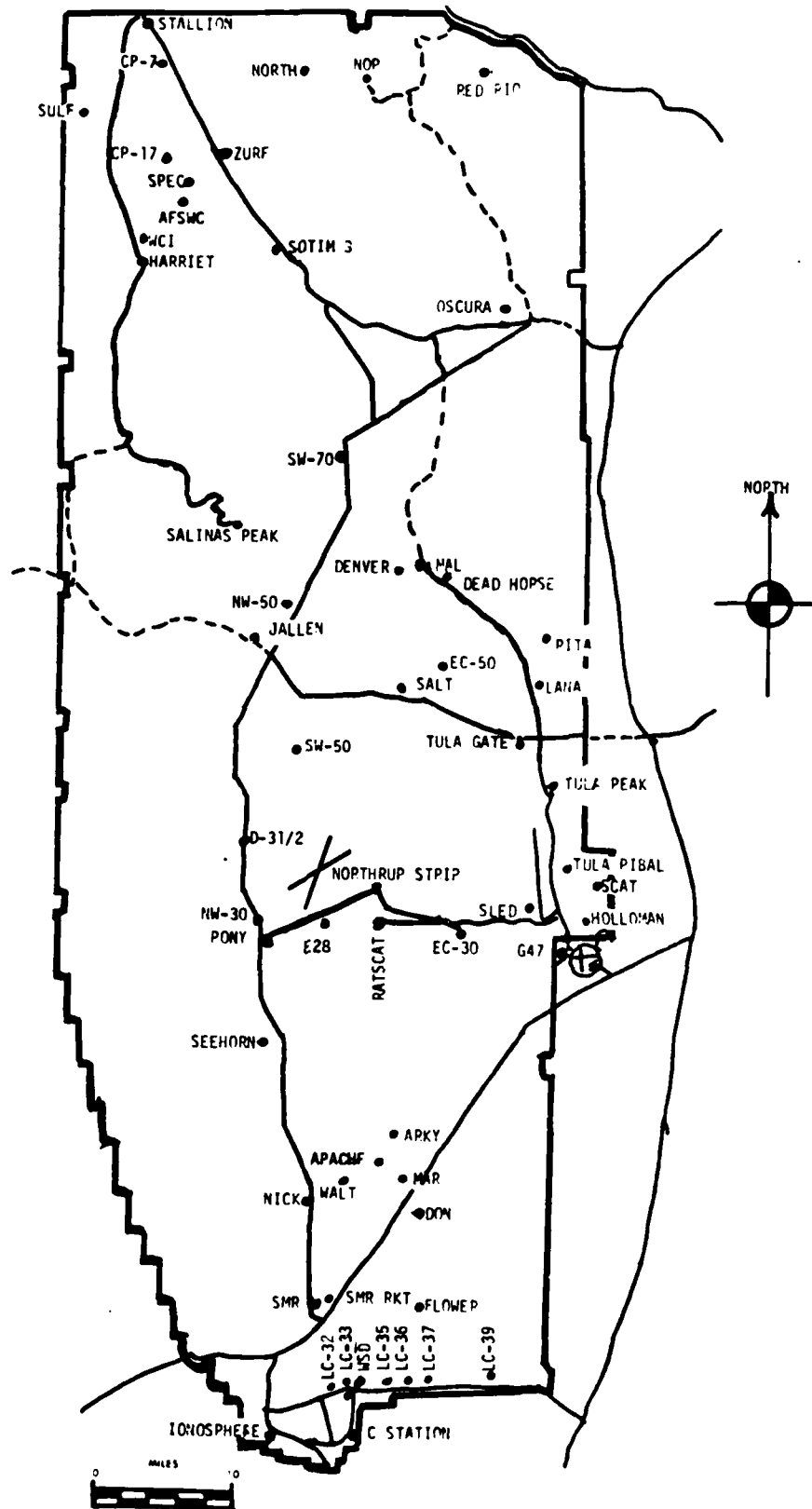
SMR	2 km
LC-33	2 km

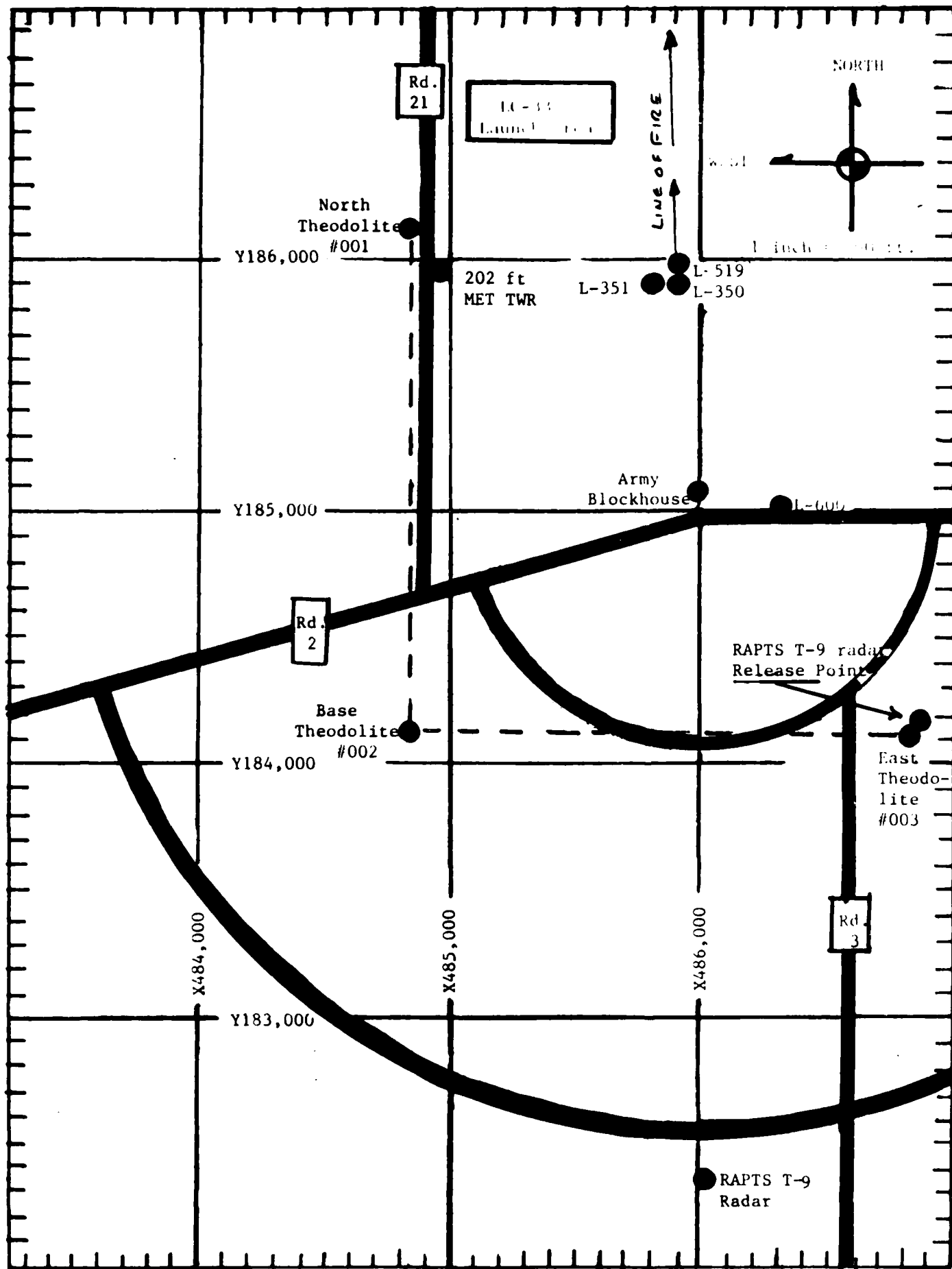
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

WSD	0656 MDT
SMR	0656 MDT
WSD	0826 MDT
SMR	0826 MDT
WSD	0911 MDT
SMR	0911 MDT
WSD	1000 MDT
SMR	1002 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1 _____ STATION IC-33

DATE 12 _____ Jun 84 _____ Y = 484,982.64 X = 185,957.73 H = 3995.00

TIME M D Y	PRESSURE mb	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY g/m ³	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
1001	877.1	31.8	8.8	24		320	10		40
1011	877.0	31.4	8.2	24		320	10		40

OBSERVATIONS TO VISIBILITY	CLOUDS							REMARKS		
	1st LAYER			2nd LAYER		3rd LAYER				
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT		TYPE	HGT
	2	ci	25000							
	2	ci	25000							

PSYCHROMETRIC COMPUTATION

TIME: MDT	1001	1011
DRY BULB TEMP.	31.8	31.4
WET BULB TEMP.	17.2	16.8
WET BULB DEPR.	14.6	14.6
DEW POINT	8.8	8.2
RELATIVE HUMID.	24	24

**LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA**

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 2

DATE 12 Jun 84 1001 M D T
DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	MISG	MISG	T-30	MISG	MISG
T-20	MISG	MISG	T-20	MISG	MISG
T-10	306	03	T-10	306	14
T- 0 (1st T)	306	01	T- 0 (1st T)	314	12
T+10	316	08	T+10	309	12
T+20	297	10	T+20	303	12
T+30	297	08	T+30	308	12
T+40			T+40		
T+50			T+50		
T+60			T+60		

LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	MISG	MISG	T-30	MISG	MISG
T-20	MISG	MISG	T-20	MISG	MISG
T-10	305	14	T-10	296	12
T- 0 (1st T)	303	14	T- 0 (1st T)	300	12
T+10	303	12	T+10	291	11
T+20	300	13	T+20	303	14
T+30	308	12	T+30	316	11
T+40			T+40		
T+50			T+50		
T+60			T+60		

**LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA**

WSTM COORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 3

DATE 12 Jun 84 1011 M D T

DAY MONTH YEAR TIME

LEVEL #1 12 FT AGL			LEVEL #2 62 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	333	12	T-30	330	12
T-20	335	08	T-20	332	12
T-10	339	10	T-10	333	10
T- 0 (1st T)	334	07	T- 0 (1st T)	339	10
T+10	342	08	T+10	340	09
T+20	343	06	T+20	336	
T+30	352	05	T+30	329	08
T+40			T+40		
T+50			T+50		
T+60			T+60		
LEVEL #3 102 FT AGL			LEVEL #4 202 FT AGL		
T-TIME (SEC)	DIR (DEG)	SPEED (KTS)	T-TIME (SEC)	DIR (DEG)	SPEED (KTS)
T-30	327	12	T-30	319	12
T-20	328	12	T-20	323	11
T-10	330	10	T-10	324	10
T- 0 (1st T)	334	10	T- 0 (1st T)	321	10
T+10	326	10	T+10	321	09
T+20	332	08	T+20	319	11
T+30	319	10	T+30	326	14
T+40			T+40		
T+50			T+50		
T+60			T+60		

TABLE 4

PILOT-BALLOON MEASURED WIND DATA

DATE 12 June 1984

SITE: LC-33

TIME: 0941 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE: SMR

TIME 0941 MDT

WSTM COORDINATES:

X= 472,444.85

Y= 213,781.95

H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	300	12
150	290	13
210	279	14
270	282	13
330	279	14
390	289	15
500	293	12
650	284	11
800	290	10
950	282	13
1150	313	05
1350	332	07
1550	195	02
1750	169	06
2000	MISG	MISG

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	215	05
150	274	04
210	280	16
270	265	16
330	303	13
390	297	15
500	305	11
650	292	04
800	320	04
950	346	01
1150	016	02
1350	250	01
1550	036	04
1750	254	02
2000	MISG	MISG

Data obtained for RAPTS T-9 radar tracked pilot-balloon observations.

TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 12 June 1984

SITE: LC-33

TIME: 1001 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE: SMR

TIME 1001 MDT

WSTM COORDINATES:

X= 472,444.85

Y= 213,781.95

H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	320	10
150	303	11
210	286	12
270	285	15
330	286	13
390	297	11
500	297	10
650	315	08
800	289	11
950	306	09
1150	317	09
1350	337	06
1550	332	04
1750	190	02
2000	239	07

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	02
150	313	02
210	315	06
270	310	04
330	260	06
390	291	06
500	300	04
650	313	05
800	319	03
950	267	04
1150	270	03
1350	268	04
1550	278	04
1750	285	03
2000	245	05

Data obtained from RAPTS-T-9 radar tracked pilot-balloon observations.

TABLE 6

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 12 June 1984

SITE: LC-33

TIME: 1011 MDT

WSTM COORDINATES:

X= 486,037.24

Y= 182,350.16

H= 3,977.30

SITE: SMR

TIME 1011 MDT

WSTM COORDINATES:

X= 472,444.85

Y= 213,781.95

H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	320	10
150	307	10
210	294	11
270	288	11
330	291	10
390	287	12
500	284	09
650	289	07
800	286	06
950	307	11
1150	338	07
1350	325	07
1550	338	09
1750	276	03
2000	219	08

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	240	03
150	265	03
210	301	06
270	281	11
330	274	12
390	274	06
500	281	03
650	279	07
800	304	06
950	245	05
1150	257	04
1350	263	03
1550	206	01
1750	255	03
2000	294	02

Data obtained from RAPTS T-9 radar tracked pilot-balloon observations.

TABLE 7

AIMING AND T-TIME COMPUTER MET MESSAGE DATA

12 June 1984

WSD 0656 MDT	SMR 0656 MDT	WSD 0826 MDT	SMR 0826 MDT
METCM1324064	METCM1325064	METCM1324064	METCM1325064
121290122876	121290122876	121440122876	121440122876
00373006 29750876	00356004 29630876	00427008 30180876	00427014 30280876
01355019 29920866	01369011 29790866	01399013 30090866	01468016 30130866
02359027 29830842	02358014 29750842	02553009 29900842	02472014 29870842
03379018 29490804	03442014 29480804	03494010 29660804	03453014 29570804
04464009 29080759	04450016 29110758	04404011 29320759	04393012 29280759
05368008 28770715	05338009 28780715	05375014 28930716	05350013 28930716
06351011 28480674	06369015 28460674	06363013 28520675	06352013 28500674
 WSD 0911 MDT	 SMR 0911 MDT	 WSD 1000 MDT	 SMR 1002 MDT
METCM1324064	METCM1325064	METCM1324064	METCM1325064
121520122876	121520122876	121600122877	121600122876
00533006 30430876	00427008 30430876	00587010 30500877	00462002 30610876
01519015 30250867	01456006 30340866	01522017 30390867	01596002 30390866
02520014 29970842	02518007 30070847	02583008 30150843	02508006 30070842
03520009 29580805	03460010 29710805	03613006 29750805	03499004 29700805
04521002 29150759	04397005 29270759	04631008 29260760	04472004 29200759
05380013 28890716	05349008 28830716	05414005 28830717	05425005 28750716
06378013 28490675	06377016 28440675	06408015 28470675	06388014 28410675

STATION ALTITUDE 2929.03 FEET MSL
12 JUNE 84
ASCENSION NO. 326

SIGNIFICANT LEVEL DATA
1440020326
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
375.7	3939.0	22.7	13.5	65.0
367.9	4255.7	25.0	10.1	39.0
350.0	4655.3	24.3	9.5	39.0
762.5	7948.9	16.9	.5	33.0
703.5	9953.6	13.6	-5.5	24.0
700.0	10375.5	12.5	-7.4	24.0
574.9	11329.9	11.3	-1.5	41.0
541.0	12736.3	7.3	-5.1	38.0
599.6	14534.6	2.2	-5.5	56.0

STATION ALTITUDE 2729.0 FEET MSL
12 JUNE 94
ASCENSION NO. 320 0656 MDT

UPPER AIR DATA
1640020325
WHITE SANDS

GEODETIC COORDINATES
32.60043 LAT DEG
106.37033 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE WILLIAMS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
5989.0	375.3	22.7	46.0	1726.2	671.9	210.0	5.0	1.000294
4000.0	575.0	22.8	45.7	1025.5	572.0	210.0	5.1	1.000283
4500.0	860.9	24.7	39.0	1001.4	574.2	210.5	8.8	1.000275
5000.0	865.0	24.0	38.7	986.3	573.3	210.8	11.5	1.000270
5500.0	531.2	22.8	37.9	973.3	671.8	211.7	14.2	1.000262
6000.0	815.7	21.6	36.8	961.1	570.3	211.1	17.0	1.000255
6500.0	876.4	20.4	35.9	948.5	559.3	213.6	17.7	1.000249
7000.0	785.4	19.2	34.8	936.1	557.3	224.5	15.1	1.000243
7500.0	774.7	18.0	33.9	923.8	665.9	241.3	11.4	1.000237
8000.0	751.1	15.8	32.8	911.5	556.4	244.2	9.6	1.000231
8500.0	747.5	15.0	30.5	898.1	553.4	248.2	7.9	1.000225
9000.0	736.2	15.2	28.3	884.9	552.3	234.1	7.0	1.000219
9500.0	721.2	14.3	26.0	871.9	661.3	215.8	5.8	1.000214
10000.0	708.3	13.5	24.0	859.2	550.2	205.1	7.7	1.000209
10500.0	695.6	12.4	27.0	846.9	559.0	198.2	5.9	1.000207
11000.0	683.0	11.7	35.4	833.0	558.4	198.6	10.1	1.000208
11500.0	670.7	10.8	40.5	820.4	557.5	199.4	11.2	1.000203
12000.0	658.5	9.4	39.6	809.3	555.7	202.7	11.9	1.000203
12500.0	646.5	8.0	38.5	799.3	554.0	205.3	12.6	1.000198
13000.0	536.7	5.5	40.7	788.7	552.3			1.000195
13500.0	523.0	5.1	45.7	778.0	650.7			1.000193
14000.0	611.5	3.7	50.7	767.5	549.0			1.000191
14500.0	600.2	2.3	55.7	757.1	547.6			1.000189

STATION ALTITUDE 3000.0 FEET "SL
14 JUNE 34
ASCENSION NO. 320 0656 MDT

MANDATORY LEVELS
1440023325
JMTF SANDS

GEODETTIC COORDINATES
32.60043 LAT DEG
106.37033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TV)	SPEED KNOTS	
950.0	4862.	24.3	9.5	39.	217.8	10.8	
800.0	6591.	20.2	4.5	35.	215.3	17.0	
750.0	8403.	15.1	-1.0	31.	247.4	8.3	
700.0	10315.	12.5	-7.4	24.	200.4	8.4	
650.0	12343.	8.4	-4.8	39.	206.5	12.4	
600.0	14491.	2.3	-5.6	55.			

STATION ALTITUDE 3997.23 FEET MSL
12 JUNE 84
ASCENSION VO. 50 0652 MDT

SIGNIFICANT LEVEL DATA
1447060355
S M R

GEODETIC COORDINATES
32.63034 LAT DEG
135.42337 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
375.2	3927.3	22.6	13.9	63.0
353.9	4235.9	23.5	9.5	61.0
353.0	4357.7	23.6	9.0	60.0
319.3	5953.5	21.4	2.0	27.0
215.7	7713.3	13.7	-6.5	23.0
200.0	10327.1	13.1	-9.0	33.0
592.3	10632.5	12.9	-3.0	33.0
545.0	12525.0	7.5	-5.3	35.0

STATION ALTITUDE 3997.70 FEET MSL
12 JUNE 84
ASCENSION NO. 50 0652 MDT

UPPER AIR DATA
1640060055
S W R

GEODETIC COORDINATES
32.65034 LAT DEG
106.42807 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TV)	WIND DATA SPEED (KNOTS)	INDEX OF REFRACTION
3997.3	376.2	22.4	48.0	1027.0	571.5	213.7	4.1	1.000265
4000.0	375.1	22.4	47.9	1026.8	571.5	210.1	6.1	1.000265
4500.0	361.0	23.5	40.5	1035.3	572.8	228.3	5.8	1.000275
5000.0	345.1	23.2	38.4	980.7	572.5	237.5	7.8	1.000263
5500.0	331.4	22.5	32.4	975.4	571.2	241.0	10.0	1.000255
6000.0	315.9	21.7	27.0	957.1	570.0	245.5	12.2	1.000245
6500.0	302.5	20.6	1.1	948.7	553.8	249.9	16.4	1.000240
7000.0	288.4	19.5	2.2	935.5	557.5	249.7	15.2	1.000235
7500.0	274.4	18.5	27.6	927.5	555.2	249.9	16.9	1.000232
8000.0	260.3	17.4	27.5	909.7	555.0	250.0	16.7	1.000227
8500.0	247.3	16.3	27.7	897.1	553.7	240.5	12.3	1.000223
9000.0	234.1	15.2	27.9	884.5	552.6	225.9	10.3	1.000219
9500.0	221.2	14.2	27.9	872.6	551.1	211.4	9.9	1.000215
10000.0	208.3	13.4	32.7	858.9	550.4	201.5	10.8	1.000215
10500.0	195.5	13.0	35.2	844.5	550.9	197.1	11.9	1.000213
11000.0	183.1	11.9	33.6	832.3	553.5	225.0	2.7	1.000207
11500.0	170.7	10.4	33.9	821.9	555.8	158.9	9.3	1.000203
12000.0	158.5	9.0	34.6	811.2	555.1			1.000200
12500.0	146.5	7.5	35.0	800.7	553.6			1.000195

STATION ALTITUDE 3097.0 FEET MSL
 12 JUNE 36
 ASCENSION NO. 56 0652 MDT

MANDATORY LEVELS
 1640000000
 S W R

GEODETIC COORDINATES
 32.48336 LAT DES
 106.42337 LONG DES

TABLE 13

PRESSURE GEOPOTENTIAL MILLIMMERS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES (TN)	SPEED (KNOTS)
950.0	6356.	25.6	60.	235.5	7.3
800.0	5591.	20.6	27.	249.3	14.9
750.0	8406.	15.5	29.	242.7	12.7
700.0	10317.	13.1	33.	199.3	11.5
650.0	12346.	3.0	35.		

STATION ALTITUDE 3999.0 FEET MSL
 14 JUNE 84
 ASCENSION NO. 327 0826 MDT

SIGNIFICANT LEVEL DATA

1640020327
 WHITE SANDS

SEDDIMENT COORDINATES
 32.60043 LAT DEG
 106.37033 LONG DEG

TABLE 14

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	
375.5 3999.0	26.9	11.0	57.0
965.7 6373.3	25.6	7.4	30.0
350.0 6370.1	25.2	5.4	23.0
910.7 5237.5	22.7	-2.1	19.0
801.5 5553.2	22.3	-2.5	19.0
747.5 5529.3	19.5	-7.3	15.0
700.0 13351.6	16.0	-5.2	26.0
557.7 12076.5	9.5	-3.0	23.0
515.1 13333.1	6.0	-5.7	39.0
593.7 14825.1	1.7	-9.9	65.0

STATION ALTITUDE 3989.0 FEET MSL
12 JUNE 84
ASCENSION NO. 327 0826 MDT

UPPER AIR DATA
140020327
WHITE SANDS

SEDDETIC COORDINATES
32.4J045 LAT NEG
135.37033 LON NEG

TABLE 15

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TW)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	375.3	25.9	17.0	1011.5	575.7	260.0	3.0	1.000281
4000.0	876.0	25.9	36.8	1011.4	575.7	260.2	3.0	1.000240
4500.0	351.0	25.0	29.3	998.3	575.3	250.7	7.9	1.000265
5000.0	365.2	25.0	27.1	935.0	573.9	260.2	3.1	1.000255
5500.0	531.5	24.0	23.8	971.5	572.7	259.6	8.5	1.000247
6000.0	317.2	23.1	20.5	958.3	571.5	277.5	9.1	1.000274
6500.0	893.0	22.9	18.2	242.7	571.1	278.0	2.2	1.000272
7000.0	749.0	21.9	17.5	929.4	559.7	256.3	9.1	1.000277
7500.0	775.2	20.8	17.0	916.3	558.5	236.6	9.1	1.000225
8000.0	751.5	19.7	16.5	904.3	557.3	230.0	11.0	1.000215
8500.0	743.3	18.5	16.0	892.0	556.0	224.0	12.4	1.000216
9000.0	735.0	17.3	18.5	879.3	554.5	218.3	13.5	1.000215
9500.0	721.9	16.1	21.3	857.7	553.3	213.1	13.5	1.000211
10000.0	702.1	14.9	24.0	855.3	551.9	207.3	13.5	1.000209
10500.0	596.5	13.5	26.2	844.1	550.5	205.4	13.2	1.000207
11000.0	583.9	12.4	26.7	832.7	559.0	204.8	13.1	1.000203
11500.0	671.6	11.1	27.3	821.5	557.5	201.7	12.8	1.000200
12000.0	559.5	9.8	27.9	810.4	555.9	193.0	12.4	1.000197
12500.0	547.4	8.3	32.9	799.7	554.2	193.5	12.2	1.000195
13000.0	635.5	5.7	38.7	737.3	552.5	189.4	12.2	1.000194
13500.0	523.9	5.2	44.5	779.0	550.7			1.000193
14000.0	512.4	3.7	48.5	758.7	549.0			1.000190
14500.0	501.0	2.5	46.4	758.0	547.5			1.000189

STATION ALTITUDE 3252.0 FEET WSL
12 JJNE 34 0826 MDT
ASCENSION NO. 327

MANDATORY LEVELS
140020327
WHITE SANDS

GEODETIC COORDINATES
52.40703 LAT DEG
106.37031 LON DEG

TABLE 16

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES (T)	SPEED (KTS)	
857.0	4367.	25.2	5.4	23.	257.5	8.0	
800.0	5501.	22.3	-2.8	19.	276.6	9.2	
750.0	8428.	19.7	-7.5	15.	226.8	12.2	
700.0	10351.	16.0	-5.2	26.	205.7	13.2	
650.0	12382.	9.5	-7.2	32.	196.6	12.3	
600.0	14522.	2.6	-9.0	65.			

STATION ALTITUDE 3997.73 FEET WSL
12 JUNE 84 0826 MDT
ASCENSION NO. 57

SIGNIFICANT LEVEL DATA
164000-0057
S W R

GEODETIC COORDINATES
32.69034 LAT DEG
136.62107 LON DEG

TABLE 17

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
375.1	3997.3	28.2	5.9	25.0
373.9	4170.4	27.5	6.5	23.0
350.0	4872.3	25.2	3.2	26.0
320.1	5399.2	22.5	-0.2	22.0
755.5	3133.9	19.0	-5.8	13.0
700.0	10355.9	16.1	-5.1	26.0
550.2	12379.3	9.3	-7.3	31.0

STATION ALTITUDE 3997.3 FEET MSL
12 JUNE 84
ASCENSION VO. 57

UPPER AIR DATA
1467060057
S W R

0826 MDT

GEODETIC COORDINATES
32.43036 LAT DEG
135.42337 LON DEG

TABLE 18

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED (KNOTS)	INDEX OF REFRACTION
3997.3	375.1	23.2	5.9	1038.6	577.7	240.0	14.0	1.000265
4000.0	375.0	23.2	5.9	1038.6	577.7	240.0	14.0	1.000265
4500.0	351.0	25.5	4.0	997.5	575.5	241.5	13.5	1.000257
5000.0	340.2	24.9	2.8	935.2	573.7	243.6	13.8	1.000252
5500.0	331.6	23.5	1.2	977.3	572.1	245.2	13.0	1.000245
6000.0	317.2	22.4	-0.6	950.6	673.7	247.1	12.6	1.000240
6500.0	302.9	21.7	-1.5	946.6	559.8	249.1	12.8	1.000235
7000.0	288.9	20.9	-2.9	932.5	558.3	249.7	11.9	1.000229
7500.0	275.1	20.1	-4.1	918.3	557.8	235.8	10.2	1.000225
8000.0	261.5	19.3	-5.4	905.3	555.9	219.3	9.6	1.000220
8500.0	248.1	18.3	-5.8	892.6	555.7	210.2	10.2	1.000217
9000.0	234.3	17.2	-5.8	880.0	556.5	203.1	11.1	1.000214
9500.0	221.8	15.0	-5.9	867.7	553.2	199.9	11.8	1.000211
10000.0	209.0	14.9	-6.3	855.5	551.9	198.8	12.4	1.000208
10500.0	196.3	13.7	-5.2	843.2	550.5	195.9	13.1	1.000205
11000.0	183.8	12.3	-5.5	832.2	558.8			1.000203
11500.0	171.4	10.8	-7.0	822.0	557.2			1.000200
12000.0	159.3	9.4	-7.4	811.2	555.5			1.000197

STATION ALTITUDE 3997.33 FEET WSL
 12 JUNE 84
 ASCENSION NO. 57 0826 MDT

MANDATORY LEVELS
 1540060067
 S M R

SEODETIC COORDINATES
 32.65036 LAT DEG
 135.62537 LON DEG

TABLE 19

PRESSURE SEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED (KNOTS)
850.0	4869.	25.2	3.2	24.	242.9	13.6
900.0	5500.	21.5	-1.9	21.	249.5	12.3
950.0	8423.	13.6	-5.8	19.	212.1	10.1
700.0	10365.	18.1	-6.1	26.	177.3	12.9

STATION ALTITUDE 3253.0 FEET MSL
 12 JUNE 34 0911 MDT
 ASCENSION NO. 323

SIGNIFICANT LEVEL DATA
 1440020323
 WHITE SANDS

GEODETIC COORDINATES
 32.40783 LAT DEG
 106.37733 LON DEG

TABLE 20

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
375.4	3929.0	29.9	7.2	24.0
470.7	4179.5	23.5	6.2	21.0
450.0	4977.5	25.4	.2	13.0
756.3	7325.5	17.8	-3.5	23.0
720.7	9545.2	15.5	-7.3	20.0
700.0	10354.4	16.0	-4.2	23.0
543.3	12555.9	7.3	-7.9	33.0
599.7	14550.2	3.0	-15.1	25.0

STATION ALTITUDE 3989.0 FEET MSL
12 JUNE 84
ASCENSION NO. 323

UPPER AIR DATA
1540020124
WHITE SANDS

0911 MDT

GEODETIC COORDINATES
32.63063 LAT DEG
126.37033 LONG DEG

TABLE 21

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA DIRECTION DEGREES(TP)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE							
3989.0	375.6	29.9	7.2	24.0	1033.0	579.7		300.0	5.0	1.000265
4000.0	375.1	29.8	7.0	23.3	1033.0	579.5		300.0	5.0	1.000265
4500.0	361.1	27.5	2.4	19.6	994.3	575.7		298.7	5.5	1.000252
5000.0	345.6	25.1	.1	18.2	982.7	574.3		297.7	7.1	1.000245
5500.0	331.5	24.5	-0.5	19.0	970.3	573.2		296.8	7.5	1.000241
6000.0	317.1	23.2	-1.1	19.9	958.1	571.5		295.0	8.2	1.000233
6500.0	302.9	21.8	-1.7	20.7	946.0	569.9		295.5	9.5	1.000234
7000.0	289.0	20.6	-2.3	21.5	934.1	568.2		294.0	5.7	1.000231
7500.0	275.2	18.9	-3.0	22.3	922.4	565.5		292.1	5.9	1.000227
8000.0	261.7	17.7	-3.6	22.3	910.3	565.1		275.8	3.5	1.000223
8500.0	248.2	17.0	-4.9	21.9	896.5	564.3		234.5	4.5	1.000219
9000.0	234.9	15.3	-6.1	21.0	882.8	563.4		219.1	7.2	1.000216
9500.0	221.9	15.5	-7.2	20.1	869.6	562.5		215.3	17.5	1.000210
10000.0	209.0	14.7	-5.4	24.5	856.3	561.6		214.4	12.7	1.000209
10500.0	195.3	13.5	-4.4	28.3	843.9	559.5		215.1	13.5	1.000208
11000.0	183.7	12.1	-5.2	29.6	837.0	553.3		214.3	13.7	1.000205
11500.0	171.3	10.7	-5.0	30.5	822.1	557.1		210.8	13.1	1.000202
12000.0	159.2	9.2	-5.8	31.5	811.5	555.3		206.1	13.3	1.000198
12500.0	147.2	7.8	-7.5	32.5	801.0	553.5		201.1	13.9	1.000195
13000.0	135.4	5.5	-9.1	31.5	739.9	552.1		199.5	16.1	1.000191
13500.0	123.6	5.6	-11.0	29.5	778.7	550.7				1.000185
14000.0	112.1	4.3	-12.9	27.3	757.5	549.3				1.000182
14500.0	100.8	5.1	-14.9	25.2	756.7	547.9				1.000173

STATION ALTITUDE 3900.00 FEET WSL
12 JUNE 34 0911 MDT
ASCENSION NO. 325

MANDATORY LEVELS
1440000000
WHITE SANDS

GEODETIC COORDINATES
32.63333 LAT DEG
106.37033 LON DEG

TABLE 22

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TV)	SPEED (KNOTS)
853.0	6876.	25.6	13.	297.9	7.0
833.0	5539.	21.5	21.	295.0	3.1
753.0	8425.	17.1	22.	230.1	6.3
733.0	10344.	14.0	28.	214.9	13.3
653.0	12378.	3.1	32.	202.2	15.7
400.0	14520.	3.0	25.		

STATION ALTITUDE 3297.71 FEET MSL
 12 JUNE 36
 ASCENSION NO. 50 0911 MDT

SIGNIFICANT LEVEL DATA
 164000Z
 S W R

GEODETIC COORDINATES
 32.48034 LAT DEG
 136.42307 LON DEG

TABLE 23

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUMID. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT	
375.2	3227.3	30.2	6.9	20.3
370.7	4174.9	30.3	2.3	17.3
350.0	4832.0	27.2	.1	17.3
700.0	13371.6	12.9	-3.3	22.3
555.5	12125.4	9.1	-7.5	50.3
596.6	14729.2	1.7	-17.2	23.3

STATION ALTITUDE 3997.0 FEET MSL
12 JUNE 34
ASCENSION NO. 58 0911 MDT

UPPER AIR DATA
154000000000
S W R

GEODETIC COORDINATES
32.63034 LAT DEG
106.62807 LONG DEG

TABLE 24

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(T4)	SPEED KNOTS	
3997.3	976.2	30.2	20.0	1002.5	579.8	260.0	3.0	1.000254
4000.0	975.1	30.2	20.0	1002.6	679.8	260.0	3.0	1.000259
4500.0	861.2	23.7	17.0	991.0	577.9	242.2	3.0	1.000249
5000.0	845.5	25.9	17.1	990.1	575.7	244.4	3.0	1.000244
5500.0	831.6	25.6	17.5	987.2	574.2	245.5	3.0	1.000240
6000.0	817.0	24.3	18.0	984.5	572.7	248.3	3.1	1.000235
6500.0	802.7	23.0	18.5	982.0	571.2	250.2	3.1	1.000232
7000.0	788.7	21.7	18.9	979.7	569.7	249.3	7.5	1.000229
7500.0	774.8	20.4	19.4	977.5	568.2	240.5	5.4	1.000225
8000.0	761.2	19.1	19.8	975.5	566.7	230.0	5.5	1.000221
8500.0	747.9	17.3	20.3	973.7	565.2	219.0	5.9	1.000215
9000.0	734.8	15.5	20.3	972.1	563.7	211.2	7.0	1.000214
9500.0	721.9	13.2	21.2	970.5	562.1	205.3	3.3	1.000211
10000.0	709.3	13.9	21.7	969.3	560.5	207.3	10.1	1.000207
10500.0	695.7	12.6	22.5	967.3	559.2	203.6	12.0	1.000204
11000.0	684.1	11.5	24.9	965.5	557.9	202.2	13.9	1.000202
11500.0	671.8	10.5	27.1	963.5	555.7	200.9	16.4	1.000200
12000.0	659.5	9.4	29.6	961.7	555.5	208.3	16.4	1.000197
12500.0	647.5	3.1	29.9	960.2	553.2	207.2	16.6	1.000193
13000.0	635.6	5.7	27.7	959.2	552.2			1.000189
13500.0	623.8	5.3	26.4	959.6	550.5			1.000185
14000.0	612.3	3.9	25.1	959.0	548.2			1.000181
14500.0	601.0	2.5	23.8	958.2	547.2			1.000178

STATION ALTITUDE 3997.70 FEET MSL
12 JUNE 84
ASCENSION NO. 59 0911 MDT

MANDATORY LEVELS
140000000
S W R

GEODETIC COORDINATES
32.83038 LAT DEG
135.62337 LON DEG

TABLE 25

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TV)	SPEED KNOTS	
850.0	4379.	27.2	.1	17.	243.9	8.0	
900.0	5520.	22.7	-2.4	19.	251.6	3.1	
750.0	8446.	18.0	-5.1	20.	219.9	5.7	
700.0	10351.	12.9	-8.3	22.	208.1	11.5	
650.0	12337.	3.5	-8.5	29.	237.9	16.6	
600.0	14532.	2.6	-16.2	26.			

GEODETIC COORDINATES
 32.63304 LAT DEG
 136.37331 LON DEG

SIGNIFICANT LEVEL DATA
 1440000729
 WHITE SANDS

STATION ALTITUDE 3939.0 FEET MSL
 12 JUNE 94
 ASCENSION NO. 329 1000 MDT

TABLE 26

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
375.5	3939.0	30.9	3.0	17.0
373.5	4335.2	30.6	2.5	17.0
350.0	4855.2	28.1	1.5	18.0
237.3	3937.2	15.3	-5.7	20.0
217.7	3537.0	14.7	-5.3	22.0
200.0	17378.6	13.5	-7.9	22.0
532.7	13149.0	5.8	-3.7	52.0
592.3	14907.2	2.3	-18.5	19.0

STATION ALTITUDE 3222.00 FEET MSL
12 JUNE 84
ASCENSION NO. 329 1000 MDT

UPPER AIR DATA
1440023320
WHITE SANDS

SEDETHIC COORDINATES
32.63363 LAT DEG
106.37333 LON DEG

TABLE 27

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3222.00	376.5	33.4	3.0	17.0	1001.3	580.6		330.0	9.9	1.000254
4000.0	376.2	33.8	3.0	17.0	1000.3	580.6		330.0	9.9	1.000254
4500.0	661.3	23.2	2.1	17.5	939.3	578.5		331.8	9.3	1.000250
5000.0	345.5	27.8	1.3	18.1	977.1	575.8		333.3	9.7	1.000245
5500.0	331.9	25.3	.6	18.3	954.3	575.1		336.1	8.1	1.000242
6000.0	317.4	24.9	-.7	18.6	952.2	573.4		338.7	7.6	1.000237
6500.0	303.2	23.4	-1.7	18.3	941.1	571.7		341.7	7.0	1.000233
7000.0	789.2	21.9	-2.7	19.0	920.4	570.0		345.0	5.5	1.000229
7500.0	775.5	23.5	-3.7	19.3	917.2	569.3		348.0	5.1	1.000225
8000.0	752.0	19.0	-4.7	19.5	906.3	565.5		351.5	5.7	1.000221
8500.0	749.7	17.6	-5.9	19.8	895.4	564.9		357.5	6.7	1.000217
9000.0	735.5	15.2	-5.7	20.2	884.1	563.3		361.1	3.2	1.000214
9500.0	722.5	15.1	-6.7	21.5	871.5	562.1		365.0	3.9	1.000211
10000.0	709.5	14.1	-7.3	22.0	859.1	560.9		362.5	5.6	1.000208
10500.0	696.9	13.0	-7.9	22.4	846.3	559.5		366.2	13.1	1.000204
11000.0	584.2	11.6	-7.9	24.3	834.9	558.3		230.2	12.9	1.000202
11500.0	571.6	10.7	-8.0	26.1	823.1	555.9		227.0	13.4	1.000199
12000.0	559.5	9.5	-3.1	27.9	811.5	555.5		226.0	14.0	1.000195
12500.0	547.7	8.3	-8.4	29.7	800.1	554.2		223.2	13.9	1.000194
13000.0	635.9	7.1	-3.5	31.5	738.2	552.8		216.0	18.7	1.000191
13500.0	524.2	5.0	-10.5	29.3	777.3	551.4				1.000187
14000.0	512.7	6.9	-13.2	25.7	755.7	550.0				1.000182
14500.0	601.4	3.7	-15.0	32.0	755.3	563.5				1.000177

STATION ALTITUDE 1900.0 FEET MSL
12 JUNE 84
ASCENSION NO. 329 1000 MDT

MANDATORY LEVELS
14002329
WHITE SANDS

SECTETIC COORDINATES
32.63063 LAT DEG
106.37033 LON DEG

TABLE 28

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES (TN)	SPEED KNOTS
937.0	4082.	28.1	1.6	19.		133.3	3.3
900.0	5527.	25.1	-1.9	19.		142.5	5.2
751.0	8452.	17.7	-5.7	20.		142.5	4.9
700.0	10368.	13.3	-7.9	22.		235.7	2.2
650.0	12375.	9.5	-9.3	22.		221.1	16.0
600.0	14545.	3.5	-16.4	22.			

STATION ALTITUDE 3007.73 FEET MSL
 12 JUNE 84
 ASCENSION NO. 59 1002 MDT

SIGNIFICANT LEVEL DATA
 1440000000
 S W R

GEODETIC COORDINATES
 32.63034 LAT DEG
 135.62337 LON DEG

TABLE 29

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
375.2	3927.3	31.5	5.9	20.0
269.3	4212.6	30.1	3.2	13.0
350.0	4833.1	27.3	.9	13.0
219.3	5946.3	24.5	-0.5	19.0
212.3	9333.6	12.9	-7.2	26.0
200.0	10353.9	12.9	-7.2	26.0
520.3	13650.5	6.3	-12.1	28.0

STATION ALTITUDE 3997.73 FEET MSL
12 JUNE 84
ASCENSION NO. 59 1002 MDT

UPPER AIR DATA
140000Z069
S W R

GEODETIC COORDINATES
32.63034 LAT DEG
105.62337 LON DEG

TABLE 30

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL-HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(T)	SPEED (KNOTS)	INDEX OF REFRACTION
3997.3	576.2	31.5	20.3	997.5	581.5	257.3	1.9	1.000243
4000.0	375.1	31.5	20.3	997.5	581.5	250.0	1.9	1.000250
4500.0	351.3	28.9	18.3	997.2	573.1	255.1	2.2	1.000250
5000.0	846.6	27.0	18.1	979.7	575.9	259.3	2.4	1.000245
5500.0	332.0	25.7	18.5	957.5	574.6	272.7	2.5	1.000242
6000.0	317.7	24.3	19.1	955.0	572.8	275.5	2.9	1.000239
5500.0	303.3	22.9	19.7	942.9	571.1	277.9	3.1	1.000234
7000.0	739.1	21.4	20.3	931.0	559.6	277.2	3.6	1.000233
7500.0	775.2	19.9	21.0	919.3	557.7	273.7	3.4	1.000225
8000.0	751.5	18.4	21.5	907.3	555.0	270.7	3.9	1.000223
8500.0	743.2	17.0	22.2	896.3	556.3	263.7	4.2	1.000219
9000.0	735.0	15.5	22.9	885.2	552.5	250.3	4.9	1.000215
9500.0	722.1	14.0	23.5	874.2	550.3	240.5	5.8	1.000212
10000.0	709.3	12.9	24.0	862.2	549.5	232.0	7.3	1.000209
10500.0	695.5	12.5	24.2	847.5	549.1	225.5	9.4	1.000205
11000.0	593.8	11.3	24.3	835.3	537.7	221.6	11.4	1.000202
11500.0	571.4	10.1	25.6	824.2	535.2	220.2	12.9	1.000198
12000.0	659.1	3.9	26.0	812.3	536.3	220.0	14.0	1.000195
12500.0	567.1	7.6	26.5	801.5	533.3			1.000192
13000.0	535.3	5.4	27.2	790.5	531.9			1.000189
13500.0	523.7	5.2	27.8	779.5	530.4			1.000185

STATION ALTITUDE 3777.70 FEET MSL
12 JUNE 34
ASCENSION NO. 59 1002 MDT

MANDATORY LEVELS
1540060059
S M R

GEODEIC COORDINATES
32.43336 LAT DEG
136.42807 LON DEG

TABLE 31

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (IND)	SPEED KNOTS	
850.0	4967.	27.3	-0	13.	258.4	2.3	
900.0	5521.	22.5	-1.6	23.	272.4	3.2	
950.0	6075.	17.2	-6.4	22.	255.4	4.1	
1000.0	6629.	12.9	-7.2	26.	227.0	8.8	
1050.0	7183.	7.9	-10.1	25.	212.3	14.3	